

## SIGNIFICANCE OF WEEDS

Reviewed by

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Vegetable production in Western Australia can be classified into two broad groups - extensive and intensive crops. Of the extensive crops potatoes are the most important with a total of approximately 6,000 acres. In addition, 3,000 acres of peas and several hundred acres of dwarf beans are grown. Weeds are a major problem in these crops as they are grown on heavier soils where cultivation is often difficult. The major weeds present in these crops are capeweed (*Cryptostemma calendula*), annual ryegrass (*Lolium rigidum*), wild turnip (*Brassica tournefortii*), wild radish (*Raphanus raphanistrum*), fumaria (*Fumaria officinalis*), amaranthus (*Amaranthus viridis*) and fat-hen (*Chenopodium album*).

The majority of the intensive crops are at present grown on sandy coastal soils where weeds can be a problem under certain conditions. Cultivation is, however, relatively easy and where this can be physically applied early in the growing season, no real difficulty arises. Crops such as runner beans, pumpkins, and melons fall into this category while tomatoes, onions, and carrots have a notorious weed problem. Cauliflower, lettuce, celery, and parsnip occupy a somewhat intermediate position having a significant weed problem only when insufficient care has been taken with the initial seed-bed preparation.

## PRESENT WEED CONTROL PRACTICES

### Extensive Crops

The use of herbicides in extensive crops is almost universal. In the main, the pre-emergent types are used, applied within three days after sowing into a well prepared seed-bed. In some cases, it is necessary to use a post-emergence herbicide to control later germination of weeds.

### Intensive Crops

Cultural seed-bed preparation remains the most important method of weed control. Herbicides are used extensively in crops such as onions and carrots, the oil-treatment being largely replaced by the use of a pre-emergent herbicide in the latter case.

Current herbicide recommendations vary from crop to crop. Those fairly widely used in the vegetable field include dimethyl, linuron, trifluralin, pyrazon, ioxynil, dinoseb, and diuron.

## THE EFFECTIVENESS OF RESEARCH, EXTENSION AND LEGISLATION

To date, there has been no direct use of legislative means to control the spread of weeds in vegetable crops. While prickly pear (*Opuntia* spp.) and artichoke thistle (*Cynara cardunculus*) are declared noxious weeds, they are not grown extensively and are not a problem in Western Australia.

Vegetable growing in Western Australia is at present in a state of flux. Traditional areas are rapidly being absorbed by metropolitan expansion, necessitating the relocation of the industry. It is likely that larger scale production with fewer actual producers will become more common. The more extensive the crop becomes so the easier is the extension. For this reason, there has been a marked improvement in the efficiency of extension over the past ten years. Use is made of all the mass media, personal contact techniques, lectures, field days demonstrations, and publications.

With the introduction of newer practices such as crop rotation and specialization, cultural weed control practices have been more effective, particularly on the lighter soils. On the other hand, a re-appraisal of plant-spacing requirements has often precluded the use of these techniques requiring the application of herbicides as an alternative.

Overall it could be said that extension in weed control is becoming easier and more effective. The hard core of family farmers is gradually giving way to the larger, more efficient operators willing to take advantage of the benefits of research.